REMARKS/ARGUMENTS

As a preliminary matter, Applicants wish to thank the Examiner for thorough examination of the present application as evidenced in the final Office Action dated July 29, 2010.

Applicants have corrected minor errors in Claims 6 and 9. No new matter is added. Claims 1-20 remain pending upon entry of the above amendment. Reconsideration and allowance are respectfully requested.

Claim Rejections -35 USC § 103

The Office Action rejected Claims 1-20 under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 7,103,644 B1 to Zhang et al. in view of U.S Patent No. 6,003,031 to Hartikainen et al.. Applicants respectfully traverse the rejection and submit that Claims 1-20 conform to the provisions of 35 U.S.C. 103(a).

Claim 1:

Claim 1 of the present application defines:

"A Softswitch device for a Next Generation Network, characterized in that said Softswitch device implements an intelligent network service in the Next Generation Network, and said Softswitch device includes:

a network adaptive device located at a bottom layer of the Softswitch device, the network adaptive device is for implementing communication between the Softswitch device and other devices in said Next Generation Network, as well as receiving call requests;

a call server in a higher layer of the network adaptive device, the call server is for determining whether the call received by said network adaptive device is a common call or a call of the intelligent network and processing the common call; and

an Intelligent Network Application Part (INAP), Customised Applications for Mobile network Enhanced Logic Application Part (CAP) or Mobile Application Part (MAP) adapter in a higher layer of the call server, the adapter is for responding to the call of the intelligent network and encoding or decoding an INAP message. "

Comparing Claim 1 of the present application with Zhang et al., Applicants respectfully submit that Claim 1 of the present application is distinguishable from Zhang et al. Claim 1 of the present application includes at least the following distinguishing technical features from Zhang et al.:

1) "said Softswitch device implements an intelligent network service in the Next Generation Network; said Softswitch device includes: a network adaptive device located at a bottom layer of the Softswitch device; a call server in a higher layer of the network adaptive device; and an Intelligent Network Application Part (INAP), Customised Applications for Mobile network Enhanced Logic Application Part (CAP) or Mobile Application Part (MAP) adapter in a higher layer of the call server"

It can be seen that Claim 1 of present application **provides a Softswitch device and the architecture thereof which includes a network adaptive device, a call server, and an INAP, CAP or MAP adapter on different layers**. Based on this architecture, the Softswitch device in Claim 1 of present application can **implement an intelligent network service in the Next Generation Network**.

However, *Zhang et al. relates to systems for an integrated data network converged service creation and execution environment* (Please see lines 11-13 in column 1 of Zhang et al.), as shown in FIG. 3 and FIG.4 of Zhang et al., *which provide the integrated data network architectures, but* ***not*** *the architecture of Softswitch device*.

In particular, Zhang et al. discloses "S*oftswitch 430 can include an Application Programming Interface ("API") 435*, which can be a Java Telephony API ("JTAPI"), *a SIP API, a Java AIN API ("JAIN"), a combination thereof*, and so on. *Softswitch 430 can also include a one or more protocol stacks such as an SS7 protocol stack 431, a MCGP/Megaco protocol stack 432, a SIP protocol stack 434, and so on"* (Please see lines 12-18 in column 6 of Zhang et al) . *It can be seen that the Softswitch in Zhang et al. only includes APIs and access protocols, and the architecture thereof is essentially different from the architecture of the Softswitch in Claim 1of the present application, and thus the Softswitch in Zhang et al. is not able to implement an intelligent network service in the Next Generation Network.*

Therefore, Zhang et al. does not disclose "said Softswitch device implements an intelligent network service in the Next Generation Network; said Softswitch device includes: a network adaptive device located at a bottom layer of the Softswitch device; a call server in a higher layer of the network adaptive device; and an Intelligent Network Application Part (INAP), Customised Applications for Mobile network Enhanced Logic Application Part (CAP) or Mobile Application Part (MAP) adapter in a higher layer of the call server."

2) "the network adaptive device is for implementing communication between the Softswitch device and other devices in said Next Generation Network, as well as receiving call requests"

As defined in Claim 1 of the present application, the network adaptive device is **a part of the Softswitch**, and has a functionality of **implementing communication between the Softswitch device and other devices in said Next Generation Network, as well as receiving call requests.**

However, *it can be seen from FIG. 4 of Zhang et al. that the PSTN switch (SSP 274) in Zhang et al. is not a part of the Softswitch*. Further, Zhang et al. discloses "*SSP 274 is a PSTN switch that can recognize intelligent network ("IN") calls and route and connect calls under the direction of an SCP"* (Please see lines 12-18 in column 6 of Zhang et al.), *which shows the PSTN switch is used to connect the PSTN network with the SCP, and is irrelevant with the data network (also shown in figure 4)*. **In contrast, the network adaptive device in Claim 1 of the present application is a part of the Softswitch device for a Next Generation Network, which is based on data packet network**.

Therefore, the "PSTN switch" in Zhang at el. is essentially different from "the network adaptive device" in Claim 1 of present application. And Zhang at el. does not disclose "the network adaptive device is for implementing communication between the Softswitch device and other devices in said Next Generation Network, as well as receiving call requests" as well.

3) "the call server is for determining whether the call received by said network adaptive device is a common call or a call of the intelligent network and processing the common call"

It can be seen from the above cited feature of Claim 1 that the call server **is also a part of the Softswitch device**, and this call server is for **determining whether the call received by the Softswitch device is a common call or a call of the intelligent network** and **processing the common call.**

In contrast, Zhang et al. does not disclose such a call server in Softswitch. Zhang et al. only discloses "Examples of converged services provided by the NGN service control complex 305 include narrowband voice call services, broadband audio/video streaming, hybrid messaging services, a combination thereof, and so forth" (Please see lines 4-8 in column 5 of Zhang et al.), *wherein the NGN service control complex 305 is an application architecture, but not a device in Softswitch*.

Therefore, Zhang at el. does not disclose "the call server is for determining whether the call received by said network adaptive device is a common call or a call of the intelligent network and processing the common call."

4) "an Intelligent Network Application Part (INAP), Customised Applications for Mobile network Enhanced Logic Application Part (CAP) or Mobile Application Part (MAP) adapter is for responding to the call of the intelligent network and encoding or decoding an INAP message"

Zhang et al. does not disclose the above technical feature.

By the above distinguishing technical features, Claim 1 of the present application solves a technical problem that **because of the essential differences in structures, principles and standards between traditional PSTN networks and the next generation networks, it is very difficult to realize the interconnection of intelligent network services between PSTN networks and the next generation networks**. (Please see the last two paragraphs of the "Technical Background" section on page 1-2 for detail.)

With reference to Hartikainen et al., *it relates to a method of providing a subscriber-specific service by an intelligent network and a system for providing a subscriber-specific service by using an intelligent network,* (Please see lines 10-14 in column 1 of Hartikainen et al..), *which solves a problem that earlier methods are impossible to implement customer-specific IN services economically on a large scale*. (Please see lines 30-33 in column 4 of Hartikainen et al.) Hartikainen at el. neither solves the above technical problem solved by Claim 1 of the present application nor offers a technical teaching of applying the above distinguishing features of Claim 1 to solve the above problem.

Particularly, Hartikainen et al. discloses "First, the SCF receives a message from the CCF/SSF identifying the program to be started. *If the CCF/SSF and the SCF are located in different network elements (SSP and SCP), the messages pass through program block ENCODE/DECODE, which modifies as internal messages intelligible to the programs.* [In communicating with each other, the SSP and SCP use the INAP protocol described in ETSI IN CS1 INAP Part 1: Protocol Specification, Draft prETS 30 374-1, November 1993. In the SS7 protocol pile, the INAP layer is the topmost layer, and beneath it are the TCAP layer (Transaction Capabilities Application Part), SCCP layer (Signaling Connection Control Point) and MTP layer (Signaling Connection Control Point) and MTP layer (Message Transfer Part).] *If, on the other hand, the CCF/SSF and SCF are located in the same network element (which is, e.g., a service node SN, cf. FIG 1)*, no modification (program block ENCODE/DECODE) is needed, but the messages may be internal of the network. Program block ENCODE/DECODE is, thus, an optional block that modifies the protocol where necessary" (Please see lines 44-64 in column 5 of Hartikainen et al.), *which is about the process of SCP, but is irrelative with Softswitch*. **In contrast, the INAP, CAP or MAP adapter in Claim 1 of the present application is in the Softswitch, and the process of the INAP, CAP or MAP adapter relates to the Softswitch as well.** Thus, the feature "an Intelligent Network Application Part (INAP), Customised Applications for Mobile network Enhanced Logic Application Part (CAP) or Mobile Application Part (MAP) adapter is for responding to the call of the intelligent network and encoding or decoding an INAP message" in Claim 1 of the present application is neither disclosed nor taught by Hartikainen et al.

Those distinguishing technical features of Claim 1 are not common general knowledge.

Therefore, there is no teaching in the prior art as a whole that would have prompted a person having ordinary skill in the art, faced with the above technical problem, to modify or adapt Zhang et al. in view of Hartikainen at el.while taking account of that teaching, thereby arriving at the technical solution of Claim 1 with the above distinguishing technical features. So, Claim 1 is non-obvious to a person having ordinary skill in the art.

Thus, Applicants respectfully submit that Claim 1 of the present application conforms to the provisions of 35 U.S.C. 103(a).

Claim 2:

Since Claim 1 conforms to the provisions of 35 U.S.C. 103(a), Claim 2 of the present application, which is dependent on Claim 1, also conforms to the provisions of 35 U.S.C. 103(a).

Claim 3:

Since Claim 1 conforms to the provisions of 35 U.S.C. 103(a), Claim 3 of the present application, which is dependent on Claim 1, also conforms to the provisions of 35 U.S.C. 103(a).

Claim 4:

Since Claim 3 conforms to the provisions of 35 U.S.C. 103(a), Claim 4 of the present application, which is dependent on Claim 3, also conforms to the provisions of 35 U.S.C. 103(a).

Claim 5:

Since Claim 1 conforms to the provisions of 35 U.S.C. 103(a), Claim 5 of the present application, which is dependent on Claim 1, also conforms to the provisions of 35 U.S.C. 103(a).

Claim 6-8:

Claim 6 defines:

"A system for implementing an intelligent network, the system including a Softswitch device, at least one Service Control Point (SCP) and an IP network, the Softswitch device including a network adaptive device, a call server and an Intelligent Network Application Part (INAP) adapter, wherein

the network adaptive device is located at a bottom layer of the Softswitch device, the network adaptive device is for implementing communication between the Softswitch device and other devices in said network, as well as receiving the call request;

the call server is in a higher layer of the network adaptive device, the call server is for determining whether a call received by said network adaptive device is a common call or a call of the intelligent network and processing the common call;

the INAP adapter is in a higher layer of the call server, the INAP adapter is for responding to the call of the intelligent network and encoding or decoding the INAP message;

the at least one SCP is for executing intelligent service logic and producing INAP messages; and

the IP network is for connecting said Softswitch device and the SCP."

For reasons similar to those stated above for Claim 1, Applicants respectfully submit that Claim 6 of the present application is distinguishable from Zhang et al. and includes at least the following distinguishing technical features:

1) "the Softswitch device including a network adaptive device, a call server and an Intelligent Network Application Part (INAP) adapter; the network adaptive device is located at a bottom layer of the Softswitch device; the call server is in a higher layer of the network adaptive device; and the INAP adapter is in a higher layer of the call server";

2) "the network adaptive device is for implementing communication between the Softswitch device and other devices in said network, as well as receiving the call request";

3) "the call server is for determining whether a call received by said network adaptive device is a common call or a call of the intelligent network and processing the common call";

4) "the INAP adapter is for responding to the call of the intelligent network and encoding or decoding the INAP message";

By the distinguishing technical features, Claim 6 of the present application also solves the technical problem that **because of the essential differences in structures, principles and standards between traditional PSTN networks and the next generation networks, it is very difficult to realize the interconnection of intelligent network services between PSTN networks and the next generation networks**.

From the above analysis of Hartikainen at el., it can be seen that Hartikainen at el. neither solves the above technical problem nor offers a technical teaching of applying the above distinguishing features to solve the above problem.

Those distinguishing technical features of Claim 6 are not common general knowledge.

Therefore, the subject matter of Claim 6 is non-obvious to a person having ordinary skill in the art. Thus Applicants respectfully submit that Claim 6 of the present application conforms to the provisions of 35 U.S.C. 103(a).

Accordingly, Claims 7-8 of the present application, which are dependent on Claim 6, also conform to the provisions of 35 U.S.C. 103(a).

Claim 9

Claim 9 defines:

"A method for a PSTN telephone to access into an intelligent network service in a next generation network, wherein there is at least one SCP in said next generation network for executing the intelligent service logics, said method including:

issuing a call request from said PSTN telephone through dialing an accessing code;

a network adaptive device in a Softswitch device transforming said call request issued by said PSTN telephone into a protocol format suitable for the next generation network;

a call server in the Softswitch device determining whether said call request is an intelligent network service provided by the SCP or not;

if said call request is an intelligent network service provided by the SCP, an Intelligent Network Application Part (INAP) adapter in the Softswitch device encoding said call request into an INAP message and transferring the message to said SCP; and

responding to said INAP message and processing said call request by said SCP."

For at least reasons similar to those stated above for Claim 1, Applicants respectfully submit that compared with Zhang et al., Claim 9 of the present application includes at least the following distinguishing technical features:

(1) "a network adaptive device in a Softswitch device transforming said call request issued by said PSTN telephone into a protocol format suitable for the next generation network";

As defined in Claim 9 of present application, a **network adaptive device is in a Softswitch device. And the network adaptive device can transform call request issued by a PSTN telephone into a protocol format suitable for the next generation network**.

However, *it can be seen from FIG. 4 of Zhang et al. that the PSTN switch (SSP 274) in Zhang et al. is not a part of the Softswitch*.

Further, as analyzed above, *the PSTN switch in Zhang et al. is used to connect the PSTN network with the SCP, and is irrelevant with the data network (also shown in figure 4)*. **In contrast, the network adaptive device in Claim 9 of the present application is a part of the Softswitch device for a Next Generation Network, which is based on data packet network**.

Besides, *the Softswitch in Zhang et al. only includes APIs and access protocols, and the Softswitch in Zhang et al. does* ***not*** *have the functionality of* "transforming said call request issued by said PSTN telephone into a protocol format suitable for the next generation network".

Therefore, Zhang at el. does not disclose:

(1) "a network adaptive device in a Softswitch device transforming said call request issued by said PSTN telephone into a protocol format suitable for the next generation network";

(2) "a call server in the Softswitch device determining whether said call request is an intelligent network service provided by the SCP or not"; or

(3) "if said call request is an intelligent network service provided by the SCP, an Intelligent Network Application Part (INAP) adapter in the Softswitch device encoding said call request into an INAP message and transferring the message to said SCP."

By the distinguishing technical features, Claim 9 of the present application also solves the technical problem that **because of the essential differences in structures, principles and standards between traditional PSTN networks and the next generation networks, it is very difficult to realize the interconnection of intelligent network services between PSTN networks and the next generation networks**.

From the above analysis of Hartikainen at el., it can be seen that Hartikainen at el. neither solves the above technical problem nor offers a technical teaching of applying the above distinguishing features to solve the above problem.

Those distinguishing technical features of Claim 9 are not common general knowledge.

Therefore, the subject matter of Claim 9 is non-obvious to a person having ordinary skill in the art. Thus, Applicants respectfully submit that Claim 9 of the present application conforms to the provisions of 35 U.S.C. 103(a).

Claims 10-12 depend on Claim 9, and thus also conform to the provisions of 35 U.S.C. 103(a).

For at least reasons similar to those stated above for Claim 9, Applicants respectfully submit that Claims 13 and 17 also conform to the provisions of 35 U.S.C. 103.

Claims 14-16 depend on Claim 13 and Claims 18-20 depend on Claim 17 respectively, and, thus, Claims 14-16 and Claims 18-20 also conform to the provisions of 35 U.S.C. 103(a).

Conclusion

The Applicants believe each and every point raised by the Examiner has been addressed on the basis of the above amendments and remarks. In view of the foregoing, it is believed that claims 1-20 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

Respectfully submitted,

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